

1 VQE results Aer Estimator (No Shots)

(Full Hamiltonian)			Anharmonic Oscillator		$\Lambda = 16$	COYBLA Max 10K Iterations			
Ansatz	Tolerance	Converged runs	Mean iter	VQE min E.	Δ_{min}	VQE median E.	Δ_{median}	Exact	Time
RA r1 rl	1e-01	100/100	65	1.8024e+00	1.8035e+00	1.2679e+01	1.268e+01	-	00h 00m 30s
RA r1 rl	1e-02	100/100	300	1.3614e-01	1.3731e-01	2.6058e+00	2.6069e+00	-	00h 01m 59s
RA r1 rl	1e-03	100/100	2789	1.9087e-02	2.0254e-02	1.1396e-01	1.1513e-01	-	00h 15m 33s
RA r1 rl	1e-04	67/100	6167	1.6193e-02	1.736e-02	1.8177e-02	1.9344e-02	-	00h 28m 59s
RA r1 rl	1e-05	35/100	8257	1.5356e-02	1.6523e-02	1.7257e-02	1.8424e-02	-	00h 34m 39s
RA r1 rl	1e-06	4/100	9031	1.5328e-02	1.6495e-02	1.7247e-02	1.8414e-02	-	00h 42m 30s
Ansatz	Tolerance	Converged runs	Mean iter	VQE min E.	Δ_{min}	VQE median E.	Δ_{median}	Exact	Time

Table 1